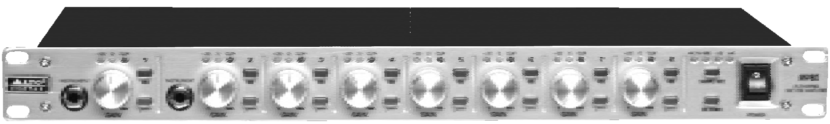
OWNER'S MANUAL

MP8D

EIGHT CHANNELS MICROPHONE/INSTRUMENT PREAMPLIFIER WITH DIGITAL OUTPUT



www.altoproaudio.com

Version 1.2 SEPTEMBER 2007

English

IMPORTANT SAFETY INSTRUCTION



TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT. THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.

This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

⏚ Protective Ground Terminal

~ AC mains (Alternating Current)

ϟ Hazardous Live Terminal

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

CAUTION

Describes precautions that should be observed to prevent damage to the product.

1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warnings reported with this symbol.



4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power cord. This could cause electric shock or fire.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

WARNING

To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.



Dispose of this product should not be placed in municipal waste and should be separate collection.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment. When a cart is used, use caution when moving the cart / equipment combination to avoid possible injury from tip-over.



12. Permanent hearing loss may be caused by exposure to \ extremely high noise levels. The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level.
These are shown in the following chart:

HOURS X DAY	SPL	EXAMPLE
8	90	Small gig
6	92	train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0,25 or less	115	Rock concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

IN THIS MANUAL:

1. INTRODUCTION

Thank you for your purchasing the MP8D microphone/instruments preamplifier with digital output. It is just one of the many ▲LTO products that a talented, multinational Team of Audio Engineers and Musicians have developed with their great passion for music. The MP8D ESOTAR has been built with no economy thinking at the challenges of the digital era. It is made in road-worthy and durable package for live and recording studio applications. The MP8D ESOTAR includes the same high-end microphone pre-amplifiers used in the renewed ▲LTO Typhoon large format mixing console. Their performance rivals with the world's best preamplifiers that cost three or four time more. The MP8D ESOTAR is equipped with both analogue and digital outputs, and therefore, it can be used great flexibility with analogue Live Consoles, Digital Audio Workshop and Hard Disk Recording. Channel 1 & 2 include a high-impedance instrument input so that you don't need an external D/I box to connect an electric guitar or bass to these inputs. Then, each of the eight channels has a phantom power switch, a low-cut switch and a GAIN control. The available gain is 60 dB, so a Line switch is not needed. The sample rate selector allows you to select 44.1k, 48k, 44.1k×2, 48k×2, 44.1k×4, 48k×4 or sample rate, or to use an external clock. MP8D ESOTAR features an outstanding 128 dB of S/N ratio; a frequency response extended to 200 kHz and a THD of 0,007%. The characteristics make MP8D ESOTAR to be one of the most transparent and advanced Microphone/Instrument preamplifiers available today.

Enjoy your MP8D ESOTAR and make sure to read this Manual carefully before operation!

2. FEATURES

- ▲ Ultra-Wide Dynamic Range
- ▲ Low-Noise Operating Levels
- ▲ +48 V Phantom Power on every Channel
- ▲ Instrument Input on Channel 1 & 2
- ▲ Eight 24-bit ADC Converters
- ▲ ADAT Lightpipe Output TM
- ▲ AES/EBU Outputs 24 bit/192 kHz
- ▲ 1/4" TRS Balanced Analogue Outputs
- ▲ BNC Word Clock I/O for Sync

3. QUICK START

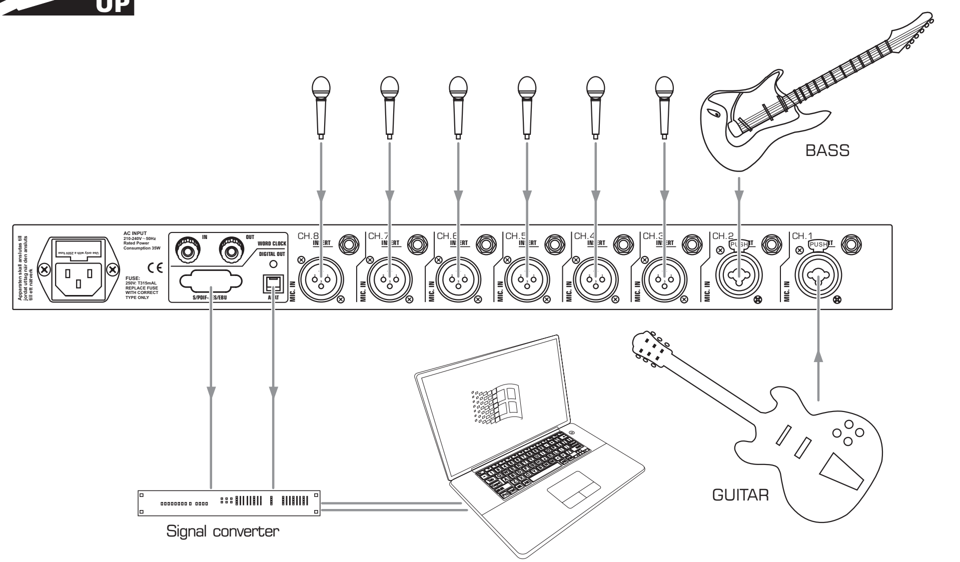
This is the fastest way to get something out from your MP8D, if you have a keyboard and a microphone.

a. Keep the Power switch in OFF position.
b. Turn down all the GAIN controls.
c. All the switches must be in OUT position.
d. Plug-in a microphone on Channel 1 MIC input.
e. Connect the output of Channel 1 (use the INSERT socket) to your mixer.
f. Sing or speak into the microphone with normal volume and adjust the channel LEVEL control of half.
g. Connect the AES/EBU output of your MP8D to a digital input of your HDR or DAW.
h. Connect the ADAT pipeline of your MP8D to your ADAT Recorder.
i. If you are using a dynamic microphone, keep the +48V (phantom power) switch in OFF position. If you are using a condenser microphone, press it in ON position.
j. Sing something into the microphone with normal volume and adjust the GAIN, so that the -20 and 0 LEDs light continuously. CLIP LED should flash occasionally or not at all.

Here you are. It is your MP8D.

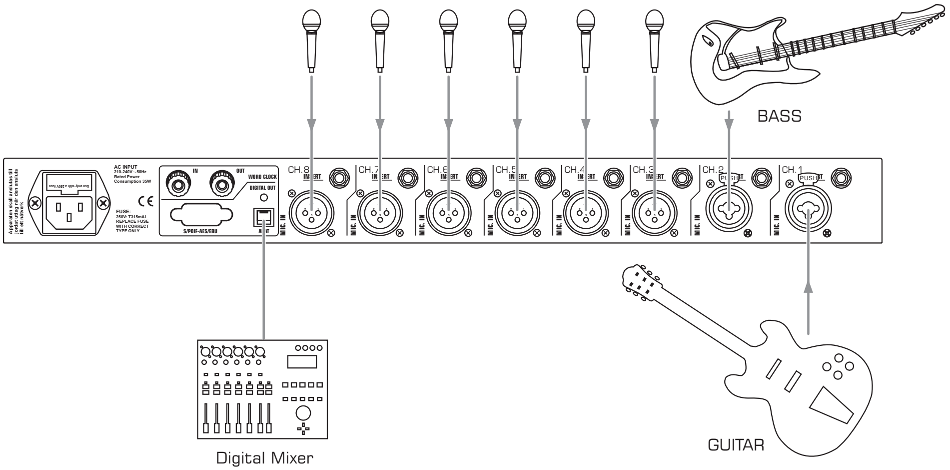
HOOK UP

MP8D WITH A DAW

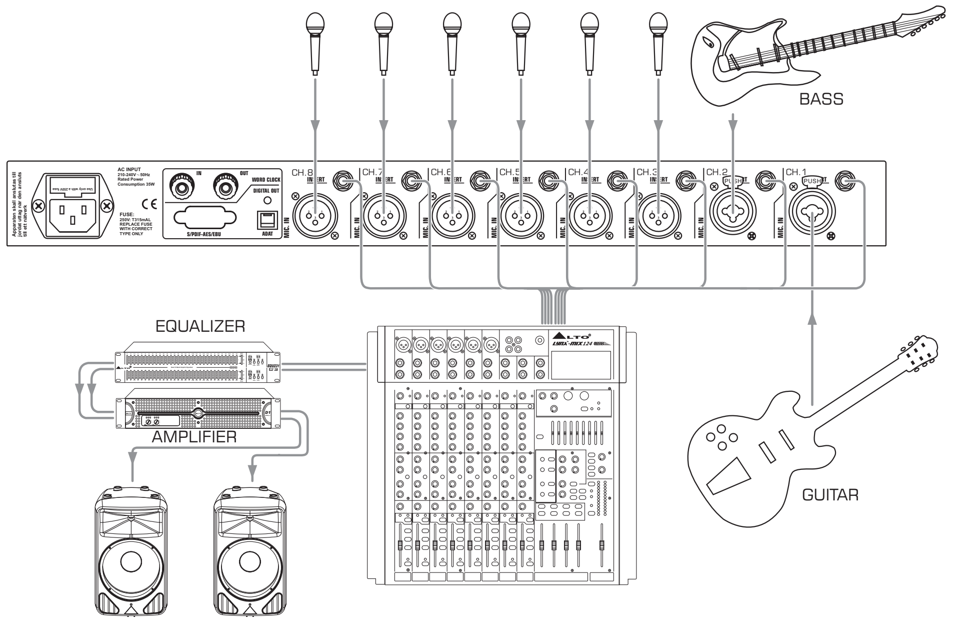


DAW = Digital Work Station

MP8D WITH ADAT RECORDING DEVICE

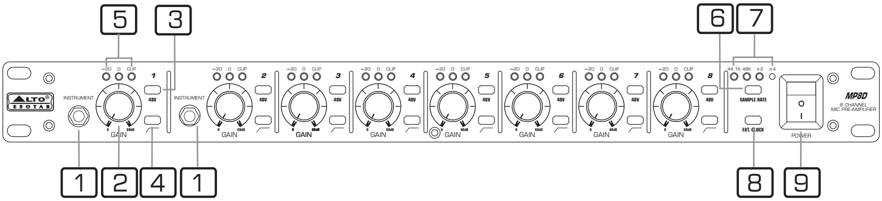


MP8D IN LIVE APPLICATION



4. CONTROL ELEMENTS

FRONT PANEL



1 1/4" INSTRUMENT Input (only channel 1 and channel 2)

These two high-impedance 1/4" instrument inputs have been designed to connect instruments such as electric guitar or bass directly into the unit without passing through an external D/I Box.

※**NOTE:** please do not use the built in pre-amp of active instruments (when available) in order to avoid distortion caused by over-driving the input signal.

2 GAIN control

This control adjusts the input sensitivity of the relative channel. Through this control audio signals from the outside world are adjusted for an optimal internal operating level. When a signal is applied to the XLR inputs on the rear panel you have 0 dB of gain with the GAIN control turned down completely. You get 60 dB of gain with this control turned all the way up.

3 +48V (phantom power) switch

Professional condenser microphone requires the phantom power. This is a low-current DC voltage delivered through pin 2 & 3 of the XLR microphone connector. Push the +48V switch to activate this function, and it will light up to confirm that the function is active. Dynamic microphone does not need the phantom power but this will not give them any damage. However, old ribbon microphone can be seriously damaged by phantom power. We advise you always to check the manual of your microphone and see if it requires phantom power or not.

4 HIGH-PASS FILTER

This filter provides an 80 Hz high pass filter for each channel. When you press it will light-up confirming that the function is active. This filter is useful for eliminating extraneous low-end information from the input signal. Frequencies at 80Hz and below are cut from the incoming signal. This filter is useful in eliminating low frequency noise such as air-conditioning rumble or for reducing the sound of footsteps or other types of vibration from being transmitted through the microphone stand into the microphone.

4. CONTROL ELEMENTS

5 SIGNAL LEVEL LEDS

These LEDs show you the signal level after the GAIN control. -20 and 0dB LEDs should always light, and CLIP LED should not flash at all to avoid distortion. If CLIP LED flashes, you must turn down the GAIN control or reduce the signal at its source.

6 SAMPLE RATE Selector Switch

Your MP8D is provided with 6 different sample rates: 44.1k, 48k, 44.1k x 2, 48k x 2, 44.1k x 4, 48k x 4. You can use this switch to select the right sample rate.

7 Sample Rate LED Indicator

These four LEDs will show you the value of the sample rate you have chosen. When one Led lights-up, it will indicate the sample rate value: 44.1K or 48K, when two of the other LEDs combine, values are: 44.1k x 2, 48k x 2, 44.1k x 4, 48k x 4.

8 EXT Clock Switch

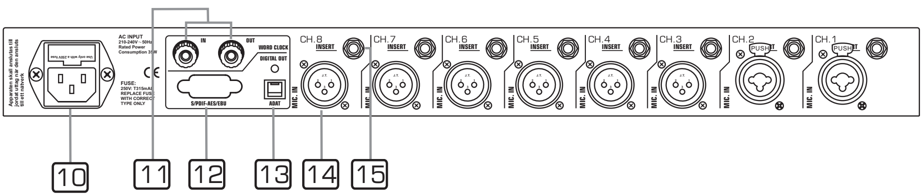
When the lighted switch is engaged, the sample rate will be determined by the input signal from "WORK IN" on the rear panel.

※**NOTE:** If you want to use the EXT CLOCK, you must press the EXT Clock switch to activate EXT Clock function. The lighted external clock switch lights up when the unit is working. Then these four sample rate LED indicators flash circularly. The Sample rate selector switch is invalidated. If you want to use internal sample rate, please press the external clock switch again to turn off the EXT CLOCK function.

9 POWER switch

It switches your MP8D ON and OFF.

REAR PANEL



10 AC Inlet

Standard IEC receptacle. Connect your MP8D an AC socket with the supplied power cord. Before powering up your MP8D for the first time, make certain the stated power requirement of the unit matches the voltage supplied by the AC socket.

If the fuse blows, replaced with a fuse of the correct type only.

11 WORD CLOCK IN/OUT

The Word clock output and input are accessed through these separate BNC connectors. The internal sample rate can send out 44.1k, 48k, 44.1k×2, 48k×2, 44.1k×4, 48k×4 sampling rate. The Word Clock In scans the incoming sample rate and automatically synchs to it. These two connectors can daisy-chain multiple MP8D. The clock signal will be transmitted from "clock out" on one MP8D into the next MP8D "clock in". In this way, more units can be used together.

12 AES/EBU Connector

The female nine-pin (DB9) connector provides 24 bit digital output. This connector is a professional interface for transmitting the digital audio signal, which comes configured for AES/EBU output when used the balanced cable with XLR plug. (The connection details please refer to chapter 5.3)

13 DIGITAL OPTICAL OUTPUT

This Toslink connector provides a digital output in ADAT lightpipe format. You can use the AES/EBU output and the ADAT output simultaneously. For example, you can use the AES/EBU output to input the 8 channels of your MP8D into a digital mixer and at the same time record the same channels into an ADAT recorder through the ADAT pipeline.

14 MIC IN

These female XLR connectors can be used with any balanced microphone. The MP8D microphone preamplifiers are the same used in Alto Large Format Mixer TYPHOON and offer an amazing audio quality and headroom. They rival with the best stand alone microphone preamplifiers available on the market.

15 INSERT

Through these stereo1/4" TRS sockets you can send the analogue signal out and also insert an external sound processor using a Y-type cable.

5. INSTALLATION AND CONNECTION

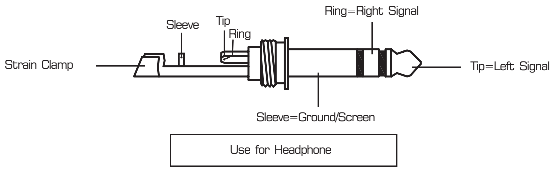
Ok, you have got to this point and you are now in the position to operate your MP8D successfully. However, we advise you to read carefully the following section to be the real master of your own mix. Not paying attention enough to the input signal level, to the routing of the signal and the assignment of the signal will result in unwanted distortion, a corrupted signal or no sound at all. So you should follow this procedure for every single channel:

5.1 Mains Connection

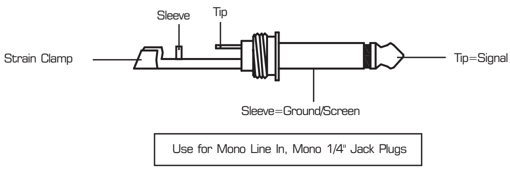
Please ensure that the MP8D is set to the correct supply voltage before plugging the power cord into the wall outlet, use the same fuse as marked on the fuse holder at the AC power connection. The mains connection of the MP8D is made by using the enclosed mains cord and a standard IEC receptacle. It meets all of the international safety certification requirements.

5.2 Audio Connection

The MP8D presents with balanced XLR & 1/4" TRS and combo connectors. It can be interfaced in several ways to support a variety of applications without any signal loss. The MP8D can be used on a single instrument by connecting to the mixing console's main inserts, or on an entire mix "in-line" between a mixing console's outputs and a power amplifier. The defective wiring may degrade the performance of MP8D, so please use good quality screened audio cables only. Please follow the guide below to interface MP8D without experiencing any noise or signal loss.

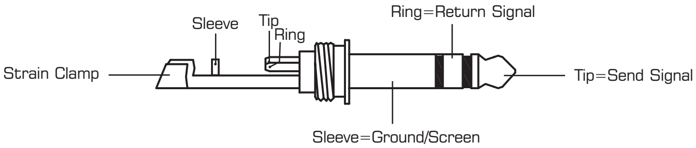


1/4" Stereo (TRS) Jack Plug



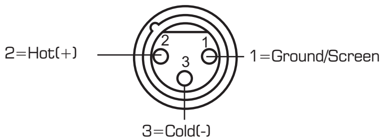
1/4" Mono (TS) Jack Plug

5. INSTALLATION AND CONNECTION



Use for Insert Points

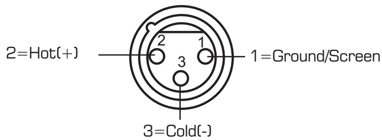
1/4" Stereo (TRS) Jack Plug



Use for Balanced Mic Inputs
(For unbalanced use, connect pin 1 to 3)

3-pin XLR Male Plug

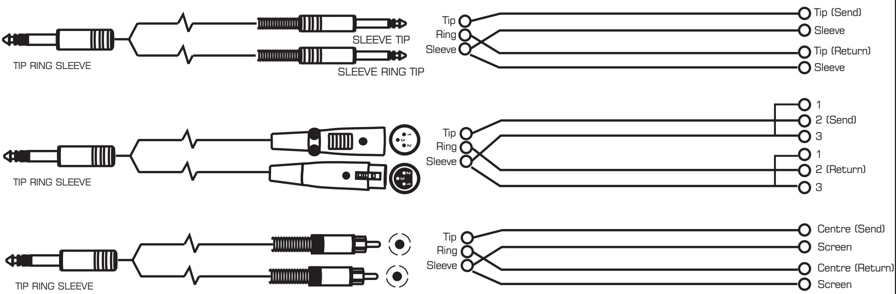
(seen from soldering side)



Use for Main output
(For unbalanced use, leave pin3 unconnected)

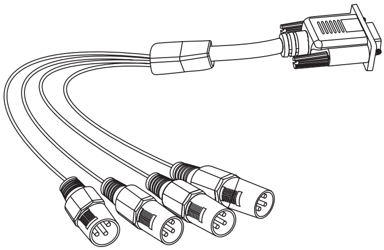
3-pin XLR Line Socket

(seen from soldering side)

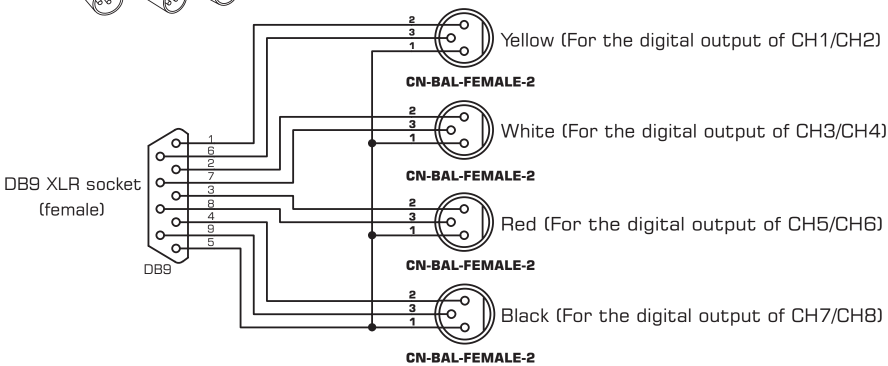


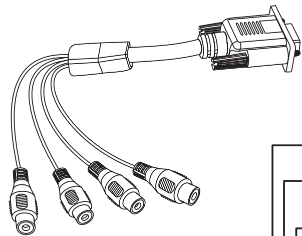
Insert Leads

5.3 AES/EBU and S/PDIF connectors

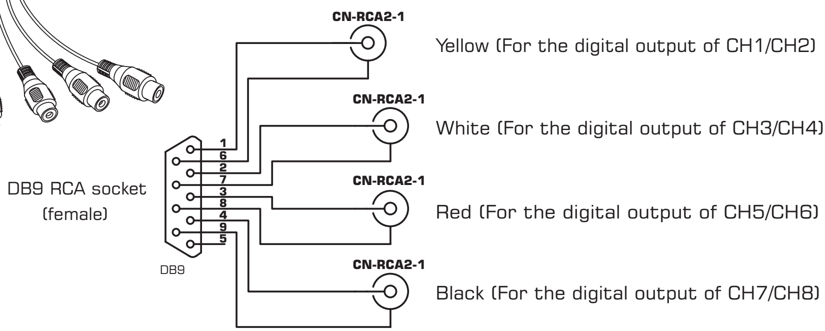


AES/EBU CONNECTOR





S/PDIF CONNECTOR

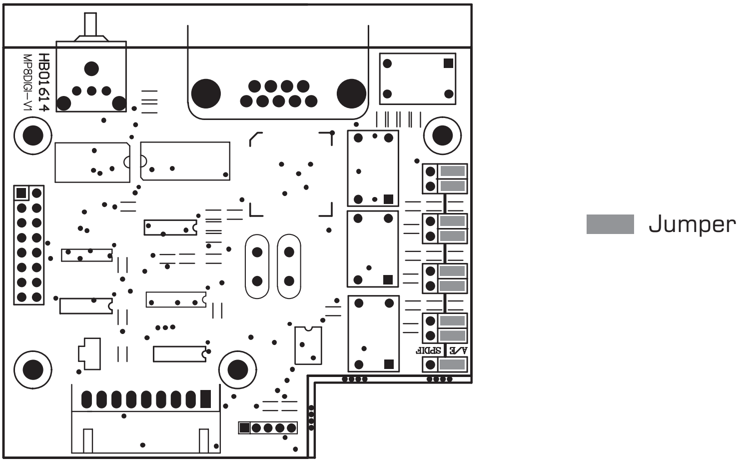


Note: For these two kinds of connectors which mentioned above are at buyer's option. You can buy them from your dealer.

6. APPENDIX

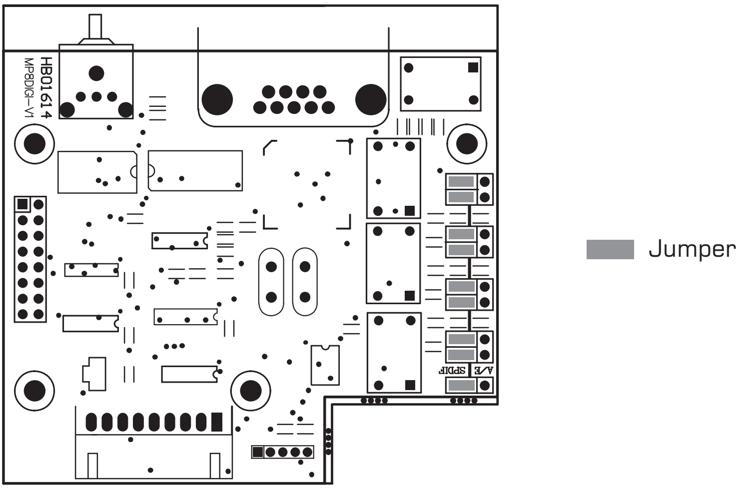
Our products are shipped in AES/EBU mode, to change to consumer(S/PDIF) mode, please follow the jumper settings as below. There are 5 jumpers in total: 4 double jumpers and 1 single.

The picture 1 is the original setting (AES/EBU mode):



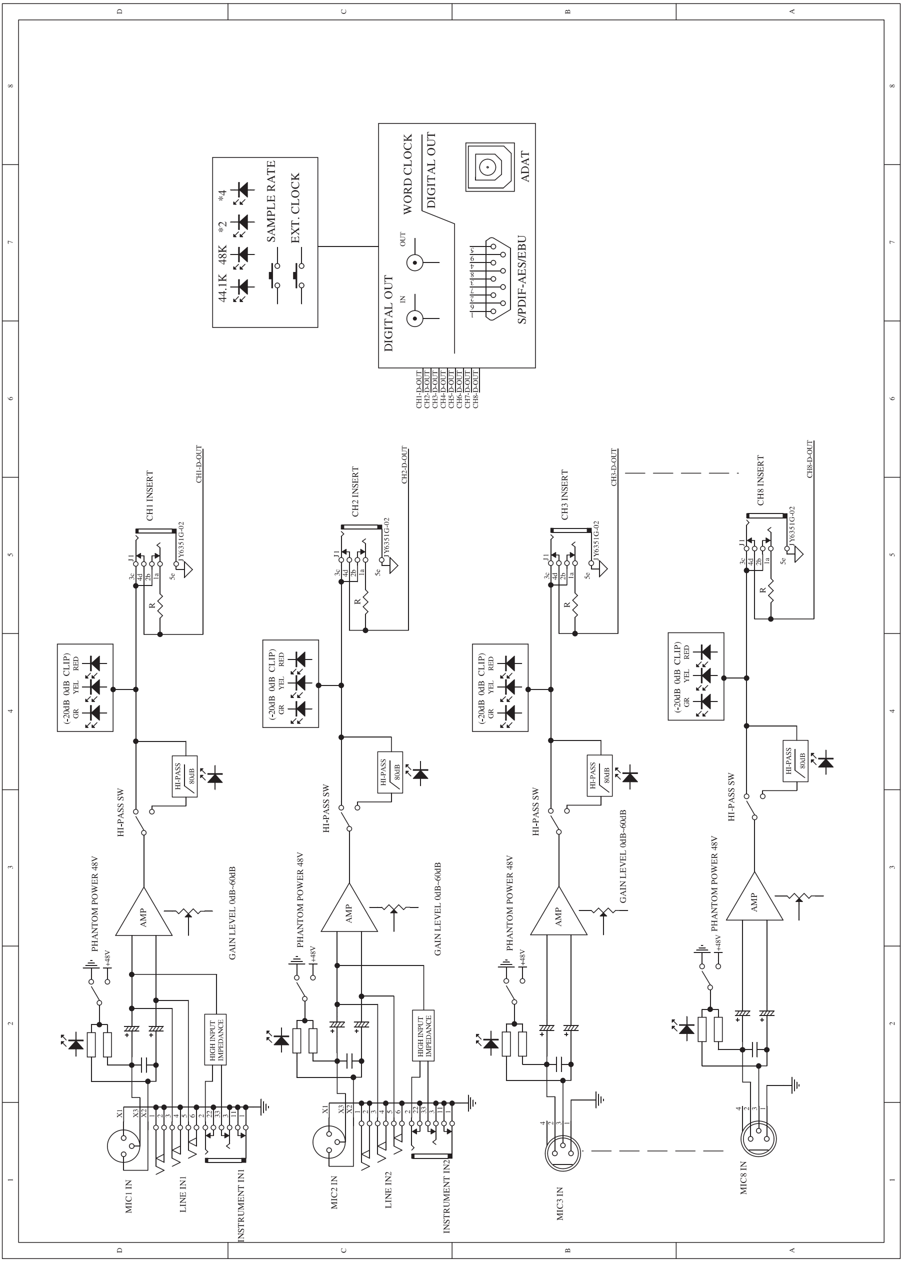
Picture 1

The picture 2 is the Consumer setting (SPDIF mode)



Picture 2

7. BLOCK DIAGRAM



8. TECHNICAL SPECIFICATION

INPUT	
Connectors	Six balanced XLR, Two 1/4" TRS Instrument Inputs and Two
	Combo on Ch1 and CH2
Impedance	Balanced >50 kOhm, Unbalanced>25 kOhm
Max input level	>+24 dBu balanced and unbalanced
CMRR	Typically>60 dB at 1 kHz
OUTPUT	
Connectors	Eight 1/4" TRS (INSERT)
	ADAT Light-Pipe Dight Optical
	AES/EBU
Impedance	Unbalanced>60ohm
Max output level	>+21dBu unbalanced
SYSTEM SPECIFICATIONS	
Bandwidth	20 Hz to 20 kHz, +0/-0.5 dB
Frequency Response	10 Hz to 200 kHz,+0/-3 dB
Signa/Noise	>128 dBu, weighted, 22 Hz to 22 kHz
THD	<0.007%
Crosstalk	<-100 dB, 22 Hz to 22 kHz
Stereo Coupling	True RMS detection
Digital	Sampling Rates 44.1K,48K,44.1K x2,48K x2,44.1K x4,48K x4
	Output 24-bit
FUNCTION SWITCHES	
48 Volt Phantom Power	Eight channel of the MP8D has 48V Phantom power available
High pass filter	>80 Hz
Sample	Six sample rates
Ext.clock	On/Off
INDICATORS	
INPUT LEVEL	3 element LED display: -20 / 0 / CLIP dB.
Function switch	LED indicator for each
POWER SUPPLY	
Mains Voltages	USA/Canada ~120 VAC, 60 Hz
	U.K./Australia ~240 VAC, 50 Hz
	Europe ~230 VAC, 50 Hz
	General Export Model ~100-120 VAC,
	~200-240 VAC, 50-60 Hz
Fuse	100-120 VAC : 400 mA (SLOW-BLOW)
	200-240 VAC : 200 mA (SLOW-BLOW)
Power consumption	35 Watts
Mains Connection	Standard IEC receptacle
PHYSICAL	
Dimension	W(483.0)xD(288.0)xH(44.2) mm
Net Weight	3.3 Kg

9. WARRANTY

1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date.
All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to provide a more effective and efficient after-sales warranty service. Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

2. RETURN NOTICE

2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.

2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail information about your return address and contact telephone number.

2.3 A brief description of the defect will be appreciated.

2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

3. TERMS AND CONDITIONS

3.1 ▲LTO warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.

3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.

3.3 During the warranty service, ▲LTO may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.

3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:

- Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
- Normal tear and wear.
- The product has been altered or modified in any way.
- Damage which may have been caused either directly or indirectly by another product / force / etc.
- Abnormal service or repairing by anyone other than the qualified personnel or technician.

And in such cases, all the expenses will be charged to the buyer.

3.5 In no event shall ▲LTO be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.

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